

**TECHNICAL REVIEW AND EVALUATION  
OF APPLICATION FOR  
AIR QUALITY PERMIT NO 33240**

**I. INTRODUCTION**

This Class II permit is for the operation of boilers, roasters and heaters by Fiesta Canning Company in McNeal, Arizona. This is a renewal of Air Quality Permit No. 24135-94.

**Company Information**

Mailing Address      3117 N. 17<sup>th</sup> Street  
Phoenix, AZ 85016

Facility Address      7879 North Central Highway  
McNeal, AZ 85617  
Cochise County

**II. FACILITY DESCRIPTION**

Fiesta Canning Company is a food processing plant. Heaters and boilers are used in heating/cooling of various buildings and water in the plant and roasters are used to roast the vegetables in the process.

**Controls:**

There are no air pollution controls on the equipment at this facility.

**III. LIMITATIONS ON POTENTIAL TO EMIT (PTE)**

This facility has the PTE, when operating all four boilers, four roasters and ten heaters for 8760 hours per year, of less than 100 tons per year of nitrogen oxides (NO<sub>x</sub>), which makes the Permittee a minor source by definition.

**IV. EMISSIONS**

The emission calculations for the permit review process relied upon emission factors derived from the Environmental Protection Agency's (EPA) Compilation of Air Pollution Emission Factors (5th Edition).

Table 1: Summary of Potential Emissions

Pollutant	Emissions
	Ton/year
CO	19.26
NO <sub>x</sub>	22.93
SO <sub>2</sub>	0.14
VOC	1.26
PM <sub>10</sub>	1.74
HAPs	0.44

## V. COMPLIANCE HISTORY

Fiesta Canning Company air quality violations include:

1. Construction/Operation of Fuel Burning Equipment without Permit or Permit Revision & Failure To Submit New Permit Application

On July 23, 2002, a Notice of Violation (NOV) was issued to Fiesta based on an ADEQ inspection conducted on July 17, 2002. The inspection revealed construction and/or operation of fuel burning equipment rated at greater than 1 MMBtu/hr (3 boilers and 3 roasters) not listed in the existing Permit No. 24135-94, and required the company to submit a new permit application within 30 days.

On February 4, 2004, ADEQ issued another NOV to Fiesta, as a result of a January 12, 2004, inspection which revealed continued construction and/or operation of fuel burning equipment (3 roasters and 3 boilers) without a permit or permit revision. This NOV also cited Fiesta for failing to submit a permit application within 180 days after issuance of a June 12, 2003, letter in accordance with A.A.C. R18-2-303(C).

On November 17, 2005, ADEQ issued another NOV to Fiesta, as a result of October 21, 2005, inspection which revealed construction and/or operation of fuel burning equipment (Cyclotherm Steam Generator, Serial No. 25242) without a permit or permit revision.

2. NSPS Subpart Dc Violations - Failure to Notify of Construction and Startup of NSPS Affected Boilers & Failure to record daily natural gas usage for NSPS Boilers

On May 19, 2004, ADEQ notified Fiesta of the following violations:

Construction and operation of the following NSPS affected boilers (equal or greater than 10 MMBtu, installed after June 1989): A 13 MMBtu Superior Boiler in 1992 and a 11.7 MMBtu Clayton #1 Boiler in 1999, without submitting notices of intent to construct and actual date of startup of operation within 15 days after startup.

Failure to record and maintain records of the amounts of natural gas combusted each day for the 2 NSPS boilers listed above.

An inspection by ADEQ conducted on March 17, 2005, revealed that Fiesta had installed meters and had begun recording daily natural gas usage in logbooks for both of the above boilers.

On November 17, 2005, ADEQ issued an NOV notifying Fiesta of the following violations:

Construction and operation of the 13 MMBtu Cyclotherm Steam Generator, Serial No. 25242: without submitting notices of intent to construct and actual date of startup of operation within 15 days after startup.

Failure to install natural gas meters on the Cyclotherm Steam Generator in order to monitor and record the amounts of natural gas combusted each day.

Failure to record the amounts of natural gas combusted each day for the Clayton Steam Generator #1 and the Superior Boiler.

3. Failure to pay in full annual air emissions and administrative fees for calendar years 1996, 1997, 2002, and 2003.

Fiesta Canning has filed a new permit application that was received by the Department on June 21, 2004, and a minor permit revision/application addendum that was received by the Department on December 22, 2005. These applications reflect all fuel burning equipment currently constructed and in operation. With the issuance of this Class II Air Quality Permit, which will supersede Air Quality Operating Permit No. 24135-94, the Department expects Fiesta Canning to return to compliance with the violations listed in # 1.

In a letter received by the Department on December 23, 2005, in response to the November 17, 2005 NOV, Fiesta Canning indicates it has taken actions to return to compliance with all the violations listed in #2. An inspection is being scheduled by ADEQ to verify compliance.

## VI. APPLICABLE REGULATIONS

The applicable regulations were identified by the Department as part of the application packet. If necessary, the source is required to list any additional regulations that may be applicable.

Table 2: Verification of Applicable Regulations

Unit	Date of Manufacture	Control Device	Rule	Verification
Boilers and Heaters – Non NSPS	Pre 1987	None	A.A.C. R-18-2-724	The boilers and heaters are subject to Standards of Performance for Fossil-fuel Fired Industrial and Commercial Equipment, A.A.C. R18-2-724.
Boiler – NSPS	2005	None	40 CFR 60, Subpart Dc	Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units.
Roasters	1974	None	A.A.C. R-18-2-730	The roasters are subject to Standards of Performance Standards of Performance for Unclassified Sources, A.A.C. R18-2-730.
Mobile Sources	N/A		Article 8	This Article is applicable to mobile sources which either move while emitting air pollutants or are frequently moved during their utilization.
Fugitive Dust Sources	N/A	Water and other reasonable precautions	Article 6	This Article is applicable to any non-point source of air contaminant.

## VII. PREVIOUS PERMITS

Table 3: Details of Previous Permit

Date of Permit Issuance	Permit Number	Application Basis
July 2, 1991	24135-94	Operating Permit

## VIII. PREVIOUS PERMIT CONDITIONS

This operating permit was issued to Fiesta Canning Company on July 2, 1991, for the operation of four boilers.

Table 4: Permit # 24135-94

Condition No.	Determination				Comments
	Revise	Keep	Delete	Stream-line	
Att. A.	x				General Provisions - Revised to represent most recent permitting language.
Att. B. I	x				Applicability requirements
Att. B. II.A	x				Opacity Standard
Att. B. II.B			x		Emission Limitations for various pollutants listed in Attachment C (Emission Sources – Maximum Allowable Emission Rates.).
Att. B. III	x				Stack sampling requirements
Att. B. IV		x			Fuel limitation
Att. B. V	x				Fuel usage and record keeping

## IX. MONITORING AND RECORDKEEPING REQUIREMENTS

### A. Boilers and Heaters – Non NSPS

#### 1. Monitoring Requirements

##### Opacity Monitoring Requirements

The permit requires monthly surveys of visual emissions from the boiler and heater stacks to be performed by a certified Method 9 observer. If the opacity of the emissions observed appears to exceed the standard, the observer is required to conduct a certified EPA Reference Method 9 observation.

#### 2. Recordkeeping Requirements

a. The Permittee is required to keep records of fuel supplier certifications to demonstrate compliance with the PM limit. The certification must contain information regarding the name of fuel supplier and heating value of the fuel.

##### b. Opacity

The Permittee is required to record the emission point being observed, date, time and the results of all visible emission surveys or Method 9 observation made monthly, as well as the name of the observer who conducted the test. In the event of opacity going beyond the limit, the Permittee will keep a record of the corrective action taken to bring the opacity below the standard.

### B. Boilers - NSPS

#### Recordkeeping Requirements

The Permittee is required to record and maintain records of the amounts of fuel combusted during each day.

## **C. Roasters**

### **1. Monitoring Requirements**

#### **Opacity**

The permit requires monthly surveys of visual emissions from the heater stacks to be performed by a certified Method 9 observer. If the opacity of the emissions observed appears to exceed the standard, the observer is required to conduct a certified EPA Reference Method 9 observation.

### **2. Recordkeeping Requirements**

#### **a. Opacity**

The Permittee is required to record the emission point being observed, date, time and the results of all visible emission surveys or Method 9 observation made monthly, as well as the name of the observer who conducted the test. In the event of opacity going beyond the limit, the Permittee will keep a record of the corrective action taken to bring the opacity below the standard.

b. The Permittee is required to keep records of fuel supplier certifications to demonstrate compliance with the PM limit. The certification must contain information regarding the name of fuel supplier and heating value of the fuel.

## **D. Fugitive Dust**

### **1. Monitoring Requirements**

#### **Opacity**

The permit requires quarterly EPA Reference Method 9 or Method 22 observations of fugitive emissions by a certified Method 9 observer.

### **2. Recordkeeping Requirements**

The Permittee is required to record the emission point being observed, date, time and the results of all observations made, as well as the name of the observer who conducted the test. In the event of opacity going beyond the limit, the Permittee will keep a record of the corrective action taken to bring the opacity below the standard.

## **X. IMPACTS TO AMBIENT AIR QUALITY**

### **A. Introduction**

As part of Fiesta Canning Company's Class II permit application, ADEQ has performed an in-house air quality impact analysis (i.e. modeling analysis, SCREEN 3). The air quality impact analysis considers operation of four boilers, four roasters and ten heaters.

The purpose of the modeling analysis is to determine whether air quality impacts from proposed criteria pollutant and hazardous air pollutant (HAP) emissions will cause or contribute to a violation of any air quality standard, or worsen an existing air quality problem. Applicable standards and guidelines include the National Ambient Air Quality Standards (NAAQS) and the Arizona Ambient Air Quality Guidelines (AAAQG).

## B. Modeling Analysis Overview

### 1. NAAQS Analysis

Table 5 below show the results of the NAAQS analysis performed for the Criteria Pollutants to determine if Fiesta Canning Company's proposed facility would exceed National Ambient Air Quality Standards. All pollutants are within the National Ambient Air Quality Standards.

Table 5: NAAQS Modeling Analysis Results

Total Maximum Modeled Concentrations for Criteria Pollutants (µg/m3)							
Pollutant	Avg. times	Total Facility Conc.	Background Conc.	Total Conc.	NAAQS	% of NAAQS	Pass or Fail?
CO	1hr	401.0334	4.4	405.4334	40000	1.01%	Pass
	8-hr	280.7234	2.1	282.8234	10000	2.83%	Pass
NO <sub>x</sub>	Annual	43.8066	0.0172	43.8238	100	43.82%	Pass
SO <sub>2</sub>	3-hr	733.5282	50	783.5282	1300	60.27%	Pass
	24-hr	326.6135	10	336.6135	365	92.22%	Pass
	Annual	51.3890	4	55.3890	80	69.24%	Pass
PM <sub>10</sub>	24-hr	13.5710	114.33	127.9010	150	85.27%	Pass
	Annual	2.7142	30.43	33.1442	50	66.29%	Pass

\*CO, NO<sub>x</sub>, SO<sub>2</sub>, - Tucson Craycroft 2001-2003 data. PM<sub>10</sub> - Douglas Redcross 2001-2003 data.

Total Maximum Modeled Concentrations for Criteria Pollutants (µg/m3)					
Pollutant	Avg. times	Total Facility Conc.	AAAQGs	% of AAAQGs	Pass or Fail?
Lead	1-hr	0.00E+00	---	---	---
	24-hr	0.00E+00	1.60E-03	0.00%	Pass
	Annual	0.00E+00	---	---	---

### 2. AAAQG Analysis

Table 6 indicates AAAQG Analysis performed for the HAPs of concern to determine if Fiesta Canning Company's proposed facility would exceed ADEQ's guideline concentrations. All pollutants are within the Arizona Ambient Air Quality Guidelines.

Table 6: AAAQG Modeling Analysis Results

Total Maximum Modeled Concentrations for Criteria Pollutants (µg/m3)					
Pollutant	Avg. times	Total Facility Conc.	AAAQGs	% of AAAQGs	Pass or Fail?
Arsenic	1-hr	1.02E-03	6.00E-02	1.71%	Pass
	24-hr	4.10E-04	1.60E-02	2.56%	Pass
	Annual	8.20E-05	2.30E-04	35.63%	Pass
Benz(a)anthracene	1-hr	9.49E-06	6.00E+00	0.00%	Pass
	24-hr	3.80E-06	1.60E+00	0.00%	Pass
	Annual	7.59E-07	4.80E-03	0.02%	Pass
Benzene	1-hr	1.11E-02	1.70E+02	0.01%	Pass
	24-hr	4.43E-03	4.40E+01	0.01%	Pass
	Annual	8.86E-04	1.20E-01	0.74%	Pass
Benzo(a)pyrene	1-hr	6.33E-06	6.70E-01	0.00%	Pass
	24-hr	2.53E-06	1.80E-01	0.00%	Pass
	Annual	5.06E-07	4.80E-04	0.11%	Pass
Beryllium	1-hr	6.15E-05	6.00E-02	0.10%	Pass
	24-hr	2.46E-05	1.60E-02	0.15%	Pass
	Annual	1.51E-05	4.20E-04	3.59%	Pass
Cadmium	1-hr	5.63E-03	7.70E-01	0.73%	Pass
	24-hr	2.25E-03	2.00E-01	1.13%	Pass
	Annual	4.51E-04	5.60E-04	80.49%	Pass
Chromium	1-hr	7.17E-03	1.50E+00	1.00%	Pass
	24-hr	2.87E-03	4.00E+00	0.00%	Pass
	Annual	---	---	---	---
Dibenzo(a,h)anthracene	1-hr	6.33E-06	6.70E-01	0.00%	Pass
	24-hr	2.53E-06	1.80E-01	0.00%	Pass
	Annual	5.06E-07	4.80E-04	0.11%	Pass
Formaldehyde	1-hr	3.95E-01	2.50E+01	1.58%	Pass
	24-hr	1.58E-01	1.60E+01	0.99%	Pass
	Annual	3.16E-02	7.60E-02	41.62%	Pass
Hexane	1-hr	9.49E+00	5.40E+03	0.18%	Pass
	24-hr	3.80E+00	1.40E+03	0.27%	Pass
	Annual	---	---	---	---
Manganese	1-hr	1.95E-03	2.50E+01	0.01%	Pass
	24-hr	7.79E-04	7.90E+00	0.01%	Pass
	Annual	---	---	---	---
Mercury	1-hr	1.33E-03	1.50E+00	0.09%	Pass
	24-hr	5.33E-04	4.00E-01	0.13%	Pass
	Annual	---	---	---	---
Naphthalene	1-hr	3.22E-03	6.30E+02	0.00%	Pass
	24-hr	1.29E-03	4.00E+02	0.00%	Pass
	Annual	---	---	---	---
Nickel	1-hr	1.08E-02	4.50E-01	2.39%	Pass
	24-hr	4.30E-03	1.20E-01	3.59%	Pass
	Annual	8.61E-04	2.10E-03	40.98%	Pass
Selenium	1-hr	1.23E-04	6.00E+00	0.00%	Pass
	24-hr	4.72E-05	1.60E+00	0.00%	Pass
	Annual	---	---	---	---
Toluene	1-hr	1.79E-02	4.40E+03	0.00%	Pass
	24-hr	6.90E-03	3.00E+03	0.00%	Pass
	Annual	---	---	---	---

## **XI. LIST OF ABBREVIATIONS**

A.A.C.....	Arizona Administrative Code
AAAQG.....	Arizona Ambient Air Quality Guidelines
BTU.....	British Thermal Unit
CFR.....	Code of Federal Regulations
CO .....	Carbon Monoxide
EPA.....	Environmental Protection Agency
HAPs .....	Hazardous Air Pollutants
MMBtu.....	Million British Thermal Unit
NAAQS.....	National Ambient Air Quality Standards
NO <sub>x</sub> .....	Nitrogen Oxides
NSPS.....	New Source Performance Standard
PM.....	Particulate Matter
PM <sub>10</sub> .....	Particulate Matter Less than 10 Microns
PTE.....	Potential to Emit
SO <sub>2</sub> .....	Sulfur Dioxide
VOC .....	Volatile Organic Compounds